

CLAIMS

What is claimed is:

- 5 1. A method for identifying a compound which inhibits HIV replication, said method comprising:
 - contacting a cell with a test compound, wherein HIV virion production is dependent on Rev protein expression in said cell; and
 - measuring HIV replication in said cell treated with a test compound, wherein a lower level of HIV replication in said cell, compared with HIV replication levels in an otherwise identical cell not contacted with said test compound, or compared with HIV replication levels in a cell which produces HIV virions independent of Rev protein expression contacted with said test compound, is an indication that said test compound is a compound which inhibits HIV replication;
- 15 thereby identifying a compound which inhibits HIV replication.
2. The method of claim 1, wherein said cell in which HIV virion production is dependent on Rev protein expression, produces non-infectious HIV virions.
- 20 3. The method of claim 2, wherein said cell is a 5BD.1 cell or a 5BA.1 cell.
4. The method of claim 1, wherein said cell which produces HIV virions independent of Rev protein expression is a 2A.22 cell.
- 25 5. The method of claim 1, wherein said method of measuring HIV replication is an ELISA assay.
6. The method of claim 5, wherein said ELISA assay measures the protein- p24.
- 30 7. The method of claim 1, wherein said method of measuring HIV replication is based on expression of a reporter gene which is expressed when HIV-1 Rev protein is expressed.

8. The method of claim 1, wherein said method identifies an inhibitor of Rev activity or function.

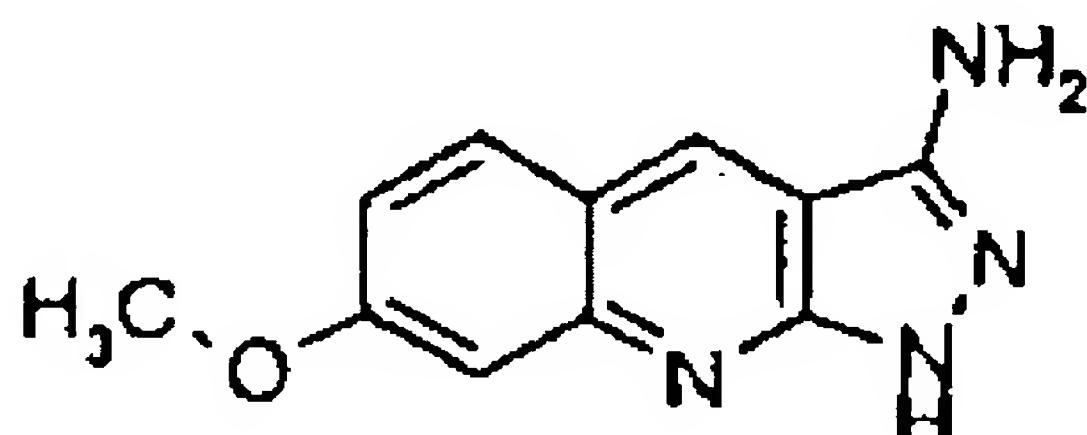
9. A compound identified by the method of claim 1.

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10. A purified compound identified by the method of claim 1.

11. A compound identified by the method of claim 1, wherein said compound is an analog or derivative of a compound selected from the group consisting of:

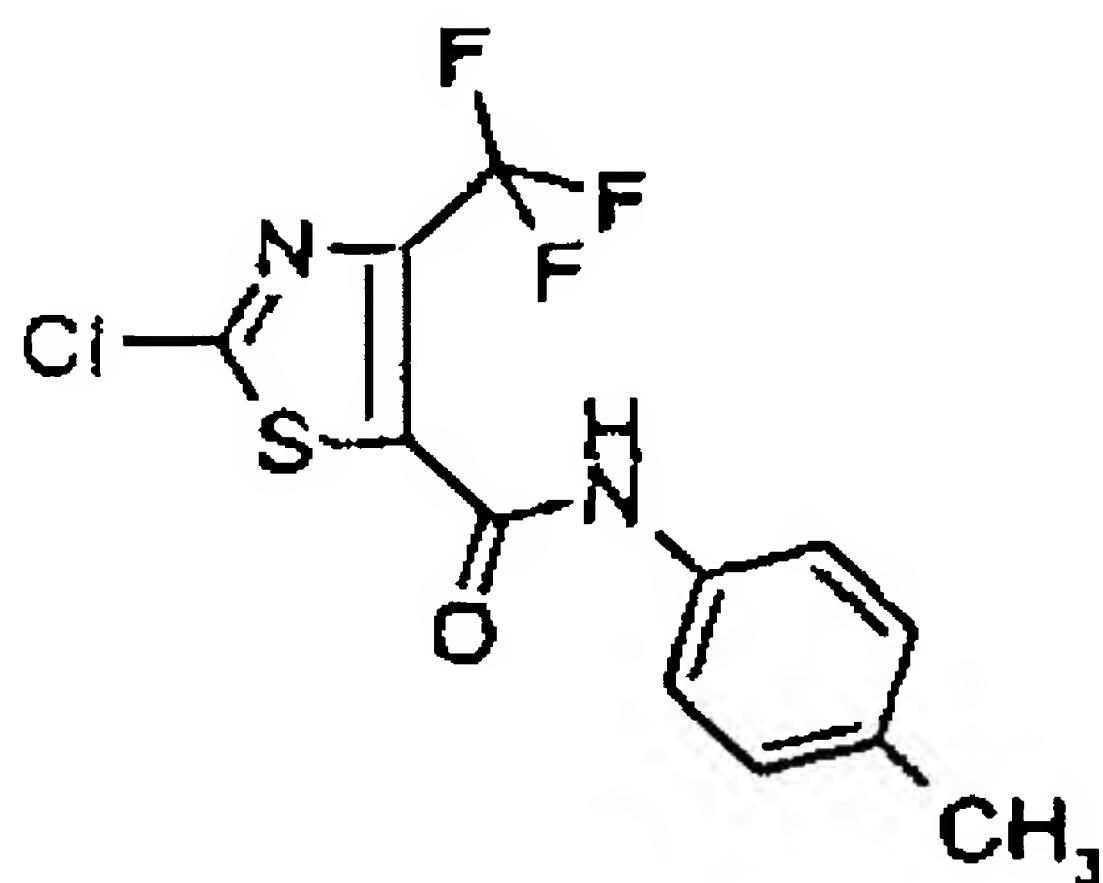
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Code Name: 89246

Specs Name: AG-690/40701421

Chemical Name: 7-methoxy-1H-pyrazolo[3,4-b]quinolin-3-ylamine,

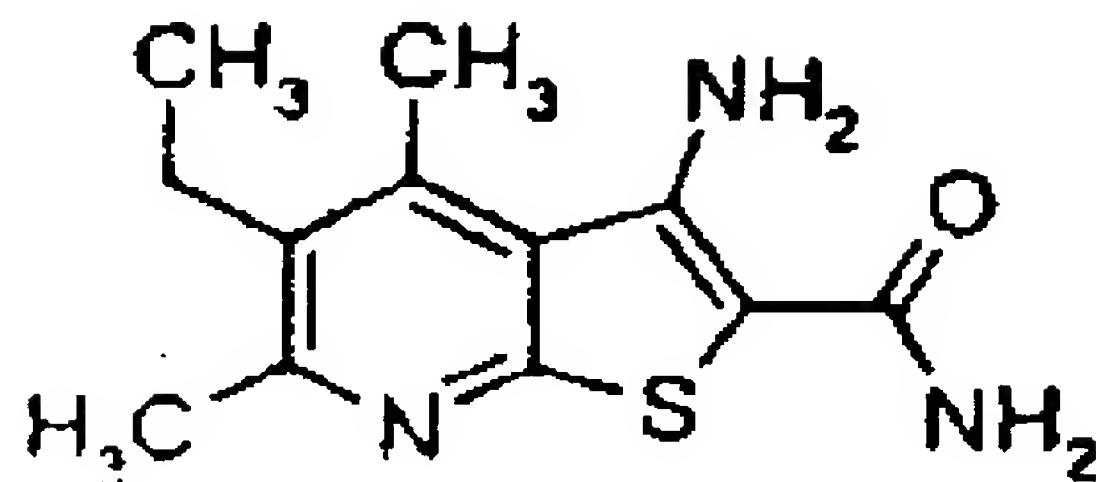


Code Name: 91161

Specs Name: AP-501/40888738

Chemical Name: 2-chloro-N-(4-methylphenyl)-4-(trifluoromethyl)-1,3-thiazole-5-carboxamide,

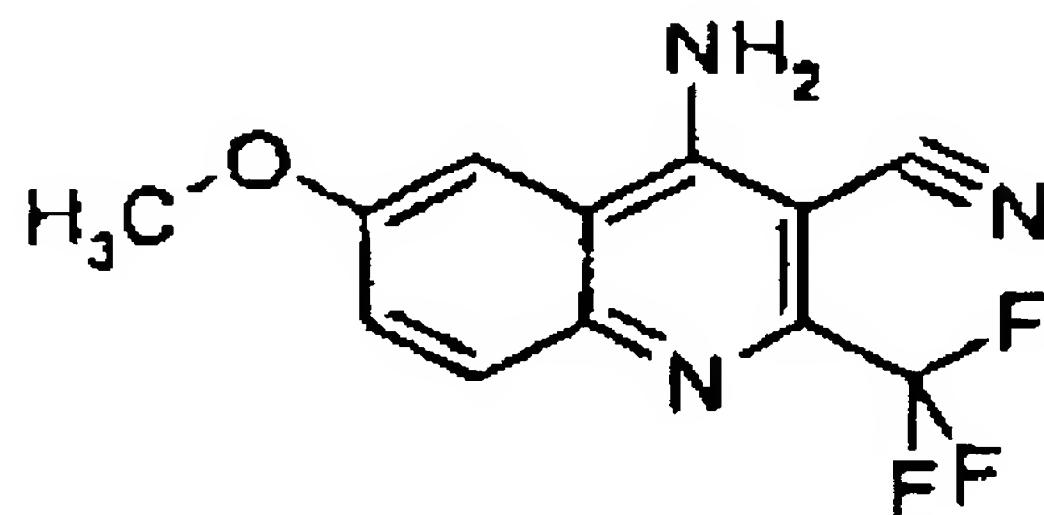
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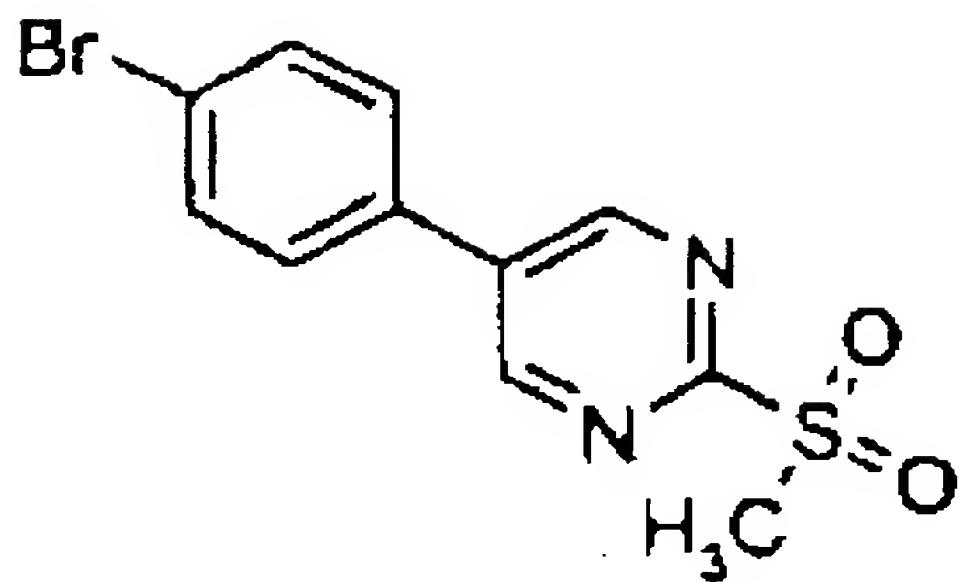
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Code Name: 103833**Specs Name:** AE-848/34435011**Chemical Name:** 3-amino-5-ethyl-4,6-dimethylthieno[2,3-b]pyridine-2-carboxamide,

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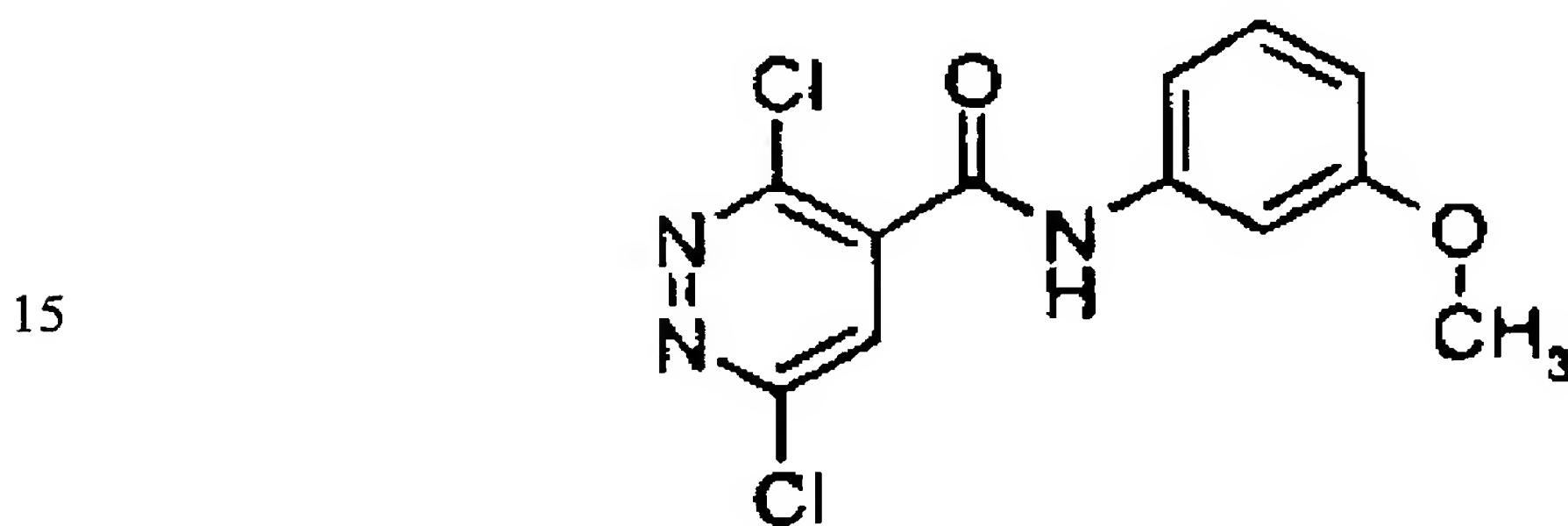
**Code Name:** 104366**Specs Name:** AG-687/25019010**Chemical Name:** 4-amino-6-methoxy-2-(trifluoromethyl)-3-quinolinecarbonitrile,

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Code Name: 107129
5 Specs Name: AC-907/25005415
Chemical Name: -(4-bromophenyl)-2-(methylsulfonyl)pyrimidine,

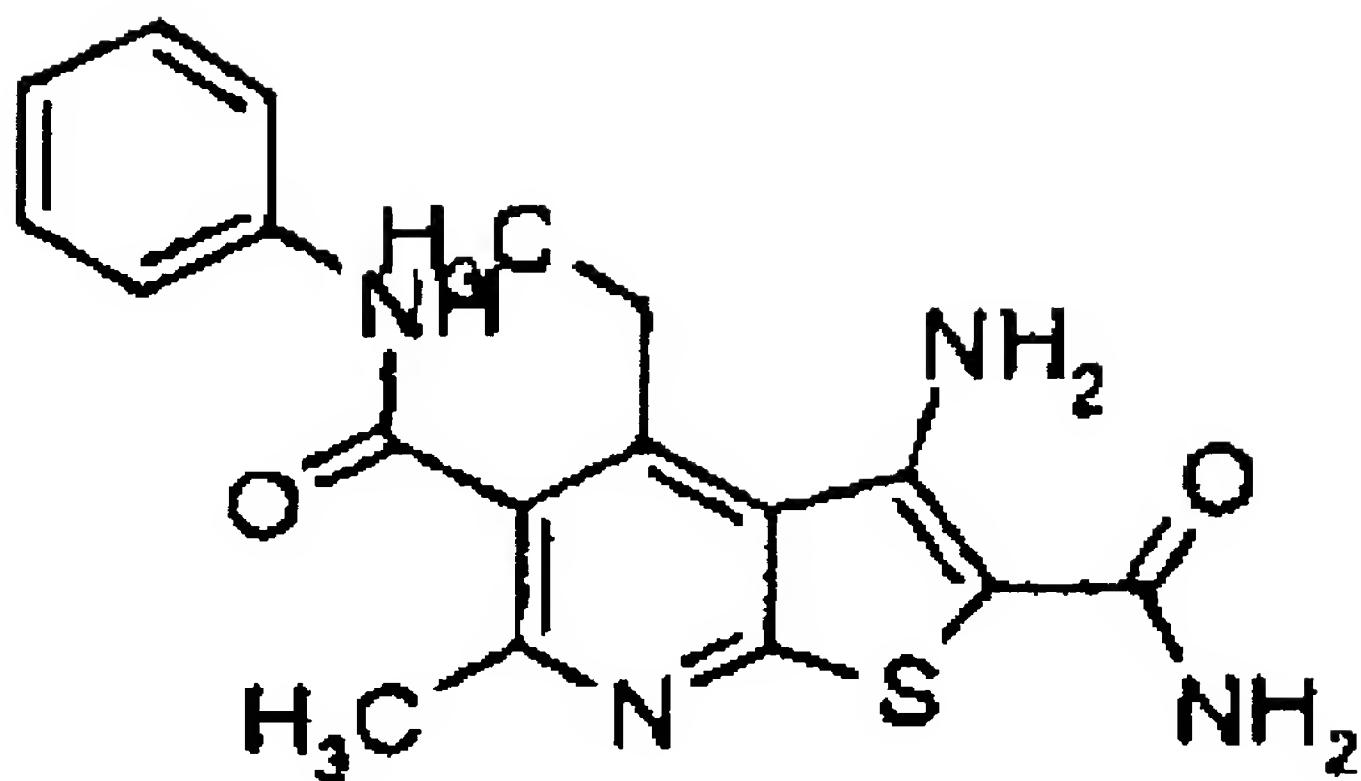
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15 Code Name: 107740
20 Specs Name: AF-399/40653810
Chemical Name: 3,6-dichloro-N-(3-methoxyphenyl)-4-pyridazinecarboxamide,

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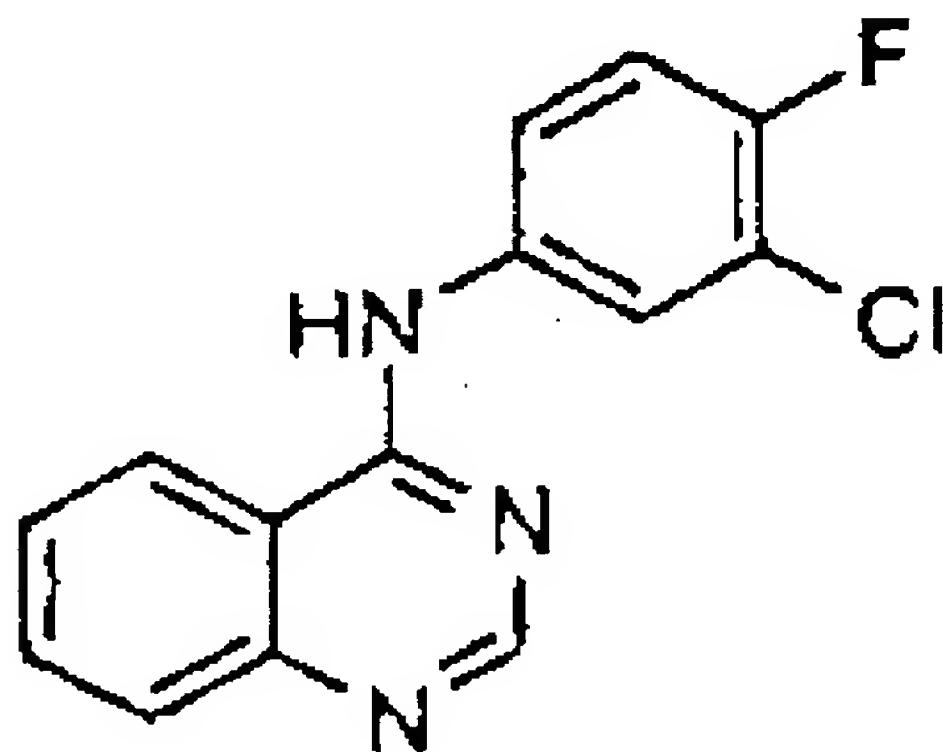
Code Name: **75168****Specs Name:** AE-848/34435026

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Chemical Name: 3-amino-4-ethyl-6-methyl-N~5~-phenylthieno[2,3-b]pyridine-2,5-dicarboxamide,

and

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**Code Name:** **109020****Specs Name:** AP-906/41641102**Chemical Name:** N-(3-chloro-4-fluorophenyl)-N-(4-quinazolinyl)amine.

12. A pharmaceutical composition comprising at least one compound identified by the method of claim 1 and a pharmaceutically-acceptable carrier.
13. A pharmaceutical composition comprising at least one compound of claim 11 and a pharmaceutically-acceptable carrier
14. A method of administering a compound identified by the method of claim 1 to a subject, said method comprising administering a pharmaceutical composition comprising at least one compound identified by the method of claim 1 and a pharmaceutically-acceptable carrier to said subject.
15. A method of administering a compound of claim 11 to a subject, said method comprising administering a pharmaceutical composition comprising at least one compound of claim 11 and a pharmaceutically-acceptable carrier to said subject.
16. A method of treating an HIV-infected subject in need of such treatment, comprising administering to said subject a pharmaceutical composition comprising an effective amount of at least one compound, analog, or derivative thereof identified by the method of claim 1 and a pharmaceutically-acceptable carrier, such that HIV replication is inhibited.
17. The method of claim 16, wherein said compound is administered via a route selected from the group consisting of topical, oral, rectal, vaginal, intramuscular, and intravenous.
18. The method of claim 17, wherein said compound is administered via an oral route.
19. A method of treating an HIV-infected subject in need of such treatment, comprising administering to said subject a pharmaceutical composition comprising an effective amount of at least one compound, analog, or derivative thereof of claim 11, and a pharmaceutically-acceptable carrier, such that HIV replication is inhibited.

20. A kit for identifying a compound which inhibits HIV replication, said kit comprising a cell wherein HIV virion production is dependent on Rev protein expression in said cell, and a cell wherein HIV virion production is independent of Rev protein expression, a standard compound, an applicator, and an instructional material for the use thereof.
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21. The kit of claim 20, wherein said cell in which HIV virion production is dependent on Rev protein expression is a 5BD.1 cell.
- 10 22. The kit of claim 20, wherein said cell in which HIV virion production is independent of Rev protein expression is a 2A.22 cell.
23. A kit for treating an HIV-infected subject in need of such treatment, said kit comprising a pharmaceutical composition comprising at least one compound identified by the method of claim 1 and a pharmaceutically-acceptable carrier, an applicator, and an instructional material for the use thereof.
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24. The kit of claim 23, wherein said kit further comprises a known compound which inhibits HIV replication.